

Notice of Allowability	Application No.	Applicant(s)	
	10/000,212	GANGADHAR, DEEPAK K.	
	Examiner	Art Unit	
	Jon Chang	2623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to original filing of application.
2. ☒ The allowed claim(s) is/are 1-42.
3. ☒ The drawings filed on 14 January 2002 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).


* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. |
| 3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date 1/14/02 | 7. <input type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |


Jon Chang
Primary Examiner

Reasons for Allowance

1. The following is an examiner's statement of reasons for allowance:

In claim 1, the details regarding the parity restoration value, are neither disclosed nor suggested by the prior art of record. Claims 15 and 29 recite similar features. Claims 2-7 depend from claim 1, claims 16-21 depend from claim 15 and claims 30-35 depend from claim 29.

In claim 8, the combination of the details regarding calculating the parity values of a parity grid encoded representation (the specification provides a definition of a parity grid encoded representation), together with details regarding non-zero occurrences of the parity values, are neither disclosed nor suggested by the prior art of record. Claims 22 and 36 recite similar features. Claim 9 depends from claim 8, claim 23 depends from claim 22, and claim 37 depends from claim 36.

In claim 10, the details regarding selecting elements of the generated parity grid matrix (the specification provides a definition of a parity grid matrix) and the altering of the elements, are neither disclosed nor suggested by the prior art of record. Claims 24 and 38 recite similar features. Claims 11-12 depend from claim 10, claims 25-26 depend from claim 24, and claims 39-40 depend from claim 38.

In claim 13, the combination of the details regarding calculating the parity values of a parity grid encoded representation, together with the details regarding combining the non-zero value of said parity values to reconstruct the embedded information, are neither disclosed nor suggested by the prior art of record. Claims 27 and 41 recite

similar features. Claim 14 depends from claim 13, claim 28 depends from claim 27, and claim 42 depends from claim 41.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

References Cited

2. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent 6,606,393 to Xie et al. discloses a message authentication code using image histograms, which utilizes parities.

U.S. Patent 6,665,420 to Xie et al. discloses a message authentication code with improved error tolerance.

U.S. Patent 6,697,498 to Kawaguchi et al. teaches a method for hiding information in an indexed color image.

U.S. Patent 6,607,927 to Kita et al. discloses a steganographic system which utilizes a parity bit sequence during watermarking.

U.S. Patent 6,725,372 to Lewis et al. discloses a system for digital watermarking which determines parity bits for each row and column of an image, and concatenates the parity bits to form a message authentication code. The MAC can provide information about the location of any tampering of the image. This is considered the

closest prior art. However, the patent does not disclose the invention as claimed, including the features mentioned in the Reasons for Allowance.

"Image Refining Technique Using Digital Watermarking" by Wu et al. teaches using Reed-Solomon codeword parities as a watermark for embedding in an image.

"A Watermarking Sequence Using Parities of Error Control Coding for Image Authentication and Correction" by Lee et al. teaches producing parities for rows and columns in conjunction with Reed-Solomon codes. This article is considered a close prior art, but does not disclose the claimed invention.


Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jon Chang whose telephone number is (703)305-8439. The examiner can normally be reached on M-F 8:00 a.m.-6:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amelia Au can be reached on (703)308-6604. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Jon Chang
Primary Examiner
Art Unit 2623

Jon Chang
November 1, 2004